WELDING PROCEDURE SPECIFICATION

WPS - 1000-8 **REV. NO.:** 0 **DATE:** 9/28/2004 ****APPLICABILITY****

WELDING PROCESS/ES SMAW **and** SMAW **ASME:** X **AWS:**

SUPPORTING PQR: Z-SM-8 WS-1 P-WS-228-1 P-WS-228-2 **OTHER:** P-WS-228-3

JOINT **This WPS shall be used in conjunction with the General Welding Standards (GWS) and Welding Fabrication Procedure (WFP) sections and criteria for joint details, repairs, NDE, inspection etc.**

Weld Joint Type: Groove/fillet **Class:** Full & partial penetration

See GWS 1-06 for joint details **Preparation:** Thermal or mechanical

Root Opening: **Backing:** Strap, ring or backweld

Backgrind root: double sided joints **Backing Mat.:** Metal

Bkgrd Method: Arc gouge or grind **GTAW Flux:** N/A **Backing Retainer:** N/A

FILLER METALS **Class:** E-3XX-xx **and** E-3XX-xx

A No: 8 **SFA Class:** 5.4 **and** 5.4 **F No:** 5 **and** 5 **Size:** 3/32 1/8 5/32

Insert: N **Insert Desc.:** N/A **Weld Metal Thickness Range:**

Flux: Type: N/A **Size:** N/A **AWS:** 0.063 **thru** 1.500

Filler Metal Note: **ASME:** 0.063 **thru** 1.500

BASE MATERIAL **P No.** 8 **Gr No.** **to: P No.** 8 **Gr No.**

Spec. ASTM A-240/312 **Grade:** All **to: Spec.** ASTM A-240/312 **Grade:** All

Qualified Pipe Dia Range: = 1

Qualified Thickness Range: **AWS:** 0.063 **thru** 1.500 **ASME:** 0.063 **thru** 1.500

QUALIFIED POSITIONS All **Vertical Progression:** Up

Preheat Min. Temp.: 50 **°F** **GAS: Shielding:** N/A **or** N/A

Interpass Max. Temp.: 350 **°F** **Gas Composition:** **%** **%** **%**

Preheat Maintinance: 50 **°F** **Gas Flow Rate cfh:** **to**

Backing Gas/Comp: N/A **%**

PWHT: Time @ °F Temp. N/A **Backing Gas Flow cfh:** **to**

Temp. Range: **°F to** **°F** **Trailing Gas/Comp:** N/A **%**

PREPARED BY Kelly Bingham **DATE:** 9/27/2004

Signature on file at FWO-DECS

APPROVED BY Tobin Oruch **DATE:** 9/28/2004

Signature on file at FWO-DECS

Note:For SC/SS/ML-1/ML-2 work, this WPS requires independent review.

WPS NO: 1000-8

WELDING CHARACTERISTICS:

Current: DCEP **and** DCEP **Tungsten type:** N/A **Transfer Mode:** N/A

Ranges: Amps 60 **to** 130 **Pulsing Cycle:** **to**

Volts 18 **to** 21 **Background Current:** N/A

Fuel Gas: N/A **Flame:** N/A **Braze temp. °F** N/A **to**

WELDING TECHNIQUE: **For cleaning, grinding, and inspection criteria refer to Volume 2, Welding Fabrication Procedures**

Technique: Manual **Cleaning Method:** Chip, Wire brush, Grind

Single Pass or Multi Pass: M **Stringer or Weave bead (S/W):** S/W **Oscillation:** N/A

GMAW Gun Angle °: **to** **Forehand or Backhand for GMAW (F/B):** N/A

GMAW/FCAW Tube to work distance: N/A

Maximum K/J Heat Input: N/A **Travel speed:** **Gas Cup Size:** N/A

No single pass shall deposit greater than 1/2" thickness of material.

PROCEDURE QUALIFIED FOR:

Charpy "V" Notch: N/A **Nil-Ductil Transition Temperature:** N/A **Dynamic Tear:** N/A

Comments:

Weld Layer	Manual Process	Filler Metals	Size	Amp Range	Volt Range	Travel/ipm	Nozzel Angle	Other
1	SMAW	E-3XX-xx	3/32	60 to 110	18 to 20	2 to 4	-	
2	SMAW	E-3XX-xx	1/8	90 to 130	19 to 21	3 to 5		
3	SMAW	E-3XX-xx	5/32	100 to 140	20 to 22	3 to 5		
4								
5								
6								
7								
8								

REM. *** Weld layers are representative only - actual number of passes and layer sequence may vary due to variations in joint design, thickness and fitup.**